FEDERAL AID ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-55 (57-1)		McLean		7
STA. 387+00		TO STA. 417+00		
E.P.A. REG. NO. 4		ILLINOIS PROJECT		

COMPILED BY STEREO-PHOTOGRAMMETRIC MEANS
CHICAGO AERIAL SURVEY
10265 FRANKLIN AVE.
FRANKLIN PARK, ILLINOIS
DATE OF PHOTOGRAPHY—
ELEVATIONS BASED ON MEAN SEA LEVEL DATUM

PLAN: SURVEYED — PLOTTED — NOTE BOOK — BY M.C. NOTTO. — NO. — CHECKED — QUANTITIES CHECKED — RT OF WAY CHECKED — BY — DATE

PROFILE: SURVEYED — PLOTTED — NOTE BOOK — BY M.C. NOTTO. — NO. — CHECKED — STRUCTURE HEIGHTS CHKD — BY — DATE

N 483,000 — N 483,500 — N 485,000 — N 485,500 — E 387,500 — E 388,000 — E 388,500

SEC. 10 T.20N. R.4E. ROBERT T. JACOBS, ET AL

SE¼ SEC. 3 T.20N. R.4E. JULIA VROOMAN

NW¼ SEC. 11 T.20N. R.4E. ANNIE E. PEARCE CARRICK

JULIA VROOMAN SW¼ SEC. 2 T.20N. R.4E.

B.M. ¾" Iron Pipe

N.W.H. I.P.

P.O.T. 389+10.70 I.P. Bumped 12"

P.O.T. 398+22.55 I.P. Flush

Ramp C — P.C. 400+42.10 — P.T. 403+16.10

Ramp B — P.C. 1113+75.25 — P.T. 1116+91.13

Ramp A — P.T. 1613+91.74

Sec. Line

Pipe Culvert (Existing) To Be Removed See ST-1HB

US 24 — FA-9 — Edge

Fl. 732.6 Catch Inv. El. 729.1

Fl. 728.6

Fl. 733.5 — Fl. 726.8

Fl. 732.8

Fl. 111.5

Fl. 112.5

Inv. 733.5 — Fl. 726.8

N. 0°48'37" W.

AC — AC — AC — AC

Sta. 393+57.00 (FAI-55) Sta. 7561+37.89 (US24)

Sta. 396+50 Pipe Culverts Type 2 RCCP 42" 225 Lin. Ft. Lt. & Rt. to Ditch 2-Sta. 1575-D42-2 Hdwls. Drainage Area = 26 Ac.

Proposed R.C. Pipe Culvert

Bridge Approach Shoulder Pavement & Inlets Type A See Std. 2320

Permanent Survey Marker Sta. 393+00 ℄ ⊥ N 1,483,612.32 E 387,992.73 (State Plane Coord.)

399+02.56 – 130' Lt. 1539+97.15 – 125' Lt.

399+91.00 A – 160' Rt. 1543+17.49 – 115' Lt.

Bridge Approach Shoulder Pavement & Inlets Type A See Std. 2320

S/2 401+80 Pipe Culverts Type 2 RCCP 24" 1340 Lin. Ft. 1.5':1Ft. to 128' Lt. 1-Sta. 1575-D24-2 Hdwl. 1-Sta. 2240 Inlet in Median 2-Sta. 2262 Pipe Elbows 15° See Sheet #60 for Details

Limits of Class III Seeding

Section 57-1HB ℄ T.P.I.W. R.R. Sta. 411+28.42 (FAI-55) Sta. 3861+80.75 (T.P.I.W. R.R.)

P.C. 413+28.40 I.P. Burned 12" No Tie

Fill in Existing Right of Way Markers Each – B

Notes shown on this sheet apply to Section 57-1 unless otherwise indicated

Temp. Survey Marker Type II P.C. Sta. 413+28.49 N 1,483,660.30 E 387,962.54 (State Plane Coord.)

Bridge Approach Shoulder Pavement

Station	to	Station	Sq. Yd.
Lt. 392+58.79	– 392+83.79		11.6
Rt. 392+58.79	– 392+83.79		11.6
Lt. 393+58.79	– 393+83.79		7.4
Rt. 393+58.79	– 393+83.79		7.4
Lt. 410+39.5	– 410+55		19.6
Rt. 410+39.5	– 410+55		11.0
Lt. 410+39.34	– 410+55 Bal.		11.0
Rt. 410+39.34	– 410+55 Bal.		19.6
Lt. 410+01	– 410+175		19.6
Rt. 410+01	– 410+175		11.0
Lt. 410+39.34 Bal.	– 410+55.34		11.0
Rt. 410+39.34 Bal.	– 410+55.34		19.6
	Total		149.15

Steel Pipe Beam Guard Rail – Single Rail

Station	to	Station	Lin. Ft.
Lt. 396+32.5	– 397+32.5		25
Med. 396+32.5	– 397+32.5		1-50
Rt. 396+32.5	– 397+32.5		25
Lt. 399 Cal. 6	– 401+11.8		1092.5
Med. 399 Cal. 6	– 401+11.8		1-50
Rt. 399 Cal. 6	– 401+11.8		1092.5
Med. 405 92.3	– 401+11.8		1-50
Lt. 412+13.3	– 417+00		486.7
Med. 412+13.3	– 417+13.3		200
Rt. 412+13.3	– 417+00		1286.7
	Total		3962.72

Terminal Section

B.M. #2-246 Standard CP&S Disk 125.5' Lt. of Sta. 396+22 Elev. 739.09

Excelsior Blanket

Station	to	Station
Lt. 402+00		100
	Total	100

Steel Pole Beam Guard Rail – Double Rail

Station	to	Station	Lin. Ft.
Med. 396+97.3	–	397+02.3	25
Med. 401+86.6	–	401+11.8	25
Med. 403+24.9	–	403+49.23	25
Med. 413+36.3	–	413+61.33	25
	Total		100

B.M. #414-A RR Spike in Power Pole 402.21 Lt. Sta. 411+7.9 Elev. 719.81

Proposed Ground & Median Edge of Pavement

Woven Wire Fence

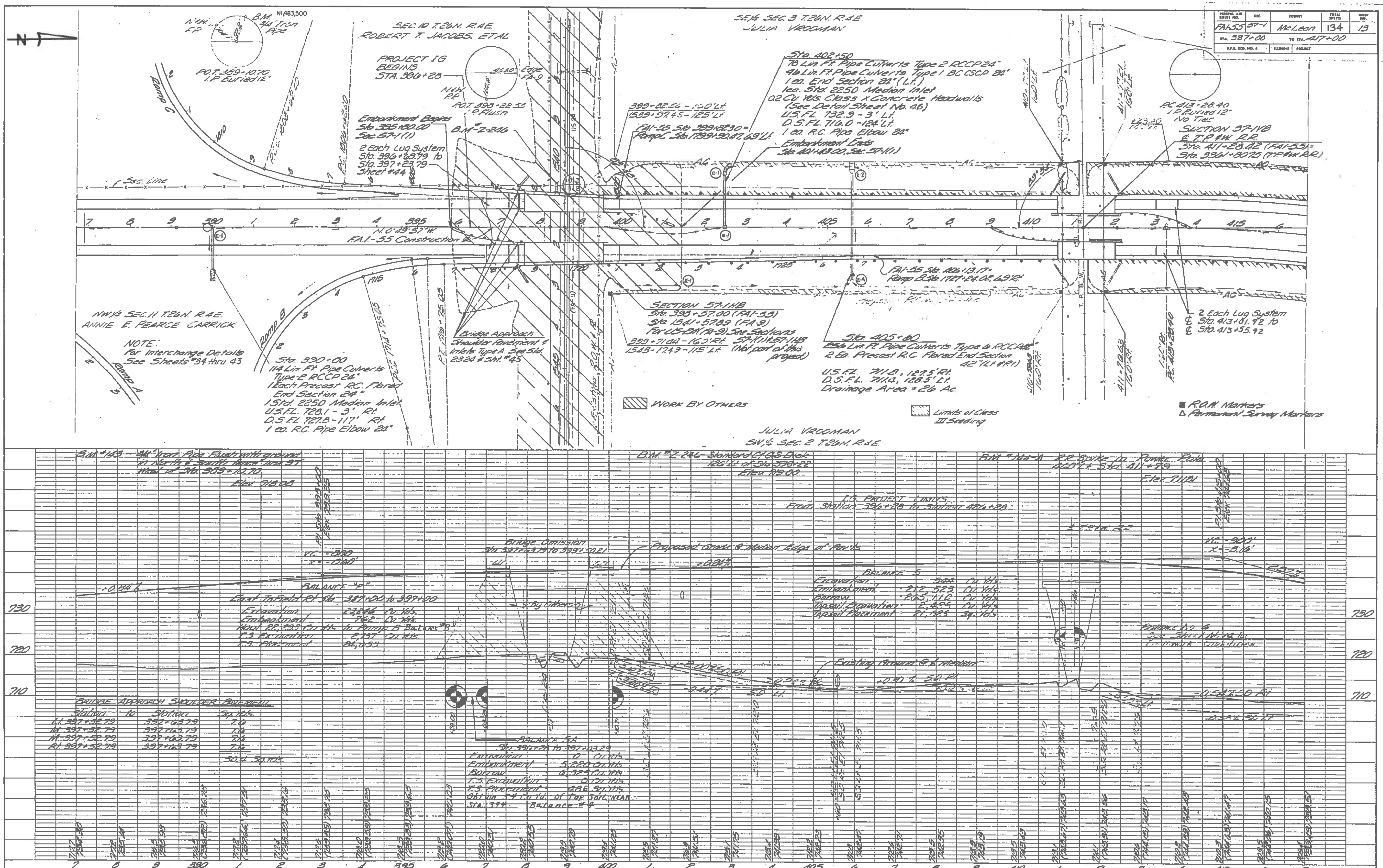
Station	to	Station	Lin. Ft.
Lt. 393+82.8	–	411+26.68	1024
Lt. 411+76.68	–	417+00	523
Rt. 393+71.2	–	410+80.86	1109
Rt. 411+80.86	–	417+00	581
Subtotal Lt. & Rt.			3237
Less Steel Fence Gate			-40
Total Woven Wire Fence			3197

Existing Ground @ ℄ Median

Inlet Min. Intercept Capacity

Station	Each	Lin. Ft.	Storm Sewer 8" Lin. Ft.
Lt. 397+04.79	1	22	
Rt. 397+04.79	1		22
Rt. 397+26.79	1		22
Rt. 397+48.79	1	24	
Lt. 400+82.5	1	22	
Rt. 400+82.5	1	22	
Lt. 401+05.34	1	26	
Rt. 401+05.34	1	16	
Lt. 402+23.3	1	22	
Rt. 402+23.3	1	22	
Lt. 402+45.34	1	26	
Rt. 402+45.34	1	22	
Total	12	262	86

Rev. 9-12-72



COMPILED BY STEREO-PHOTOGRAMMETRIC MEANS
CHICAGO AERIAL SURVEY
10265 FRANKLIN AVE.
FRANKLIN PARK, ILLINOIS
DATE OF PHOTOGRAPHY —
ELEVATIONS BASED ON MEAN SEA LEVEL DATUM

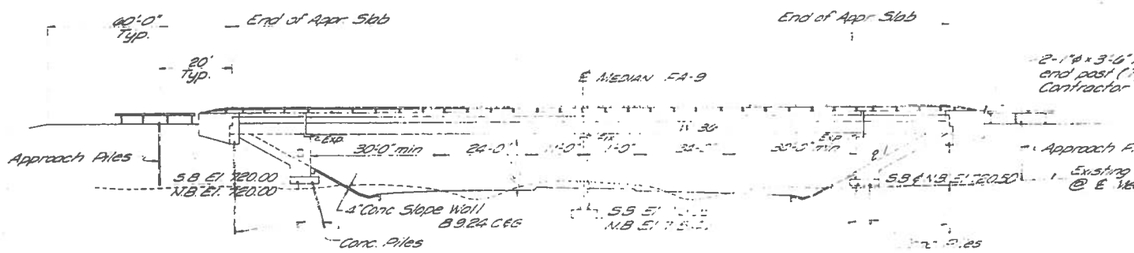
PLAN: SURVEYED / PLOTTED / ALIGNMENT CHECKED / R.O.W. CHECKED — NOTE BOOK — NO. — BY — DATE

PROFILE: SURVEYED / PLOTTED / GRADES CHECKED / B.M. NOTED / STRUCTURE NOTATIONS CHECKED — NOTE BOOK — NO. — BY — DATE

FEDERAL AID ROUTE NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-55	57-1	McLean	134	43
F.A.P.		TO STA.		
F.A.P. RTE. NO. 4		ILLINOIS	PROJECT	

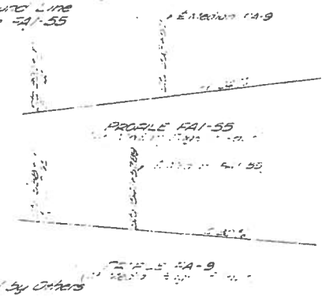
SHEET 1 OF 25 SHEETS

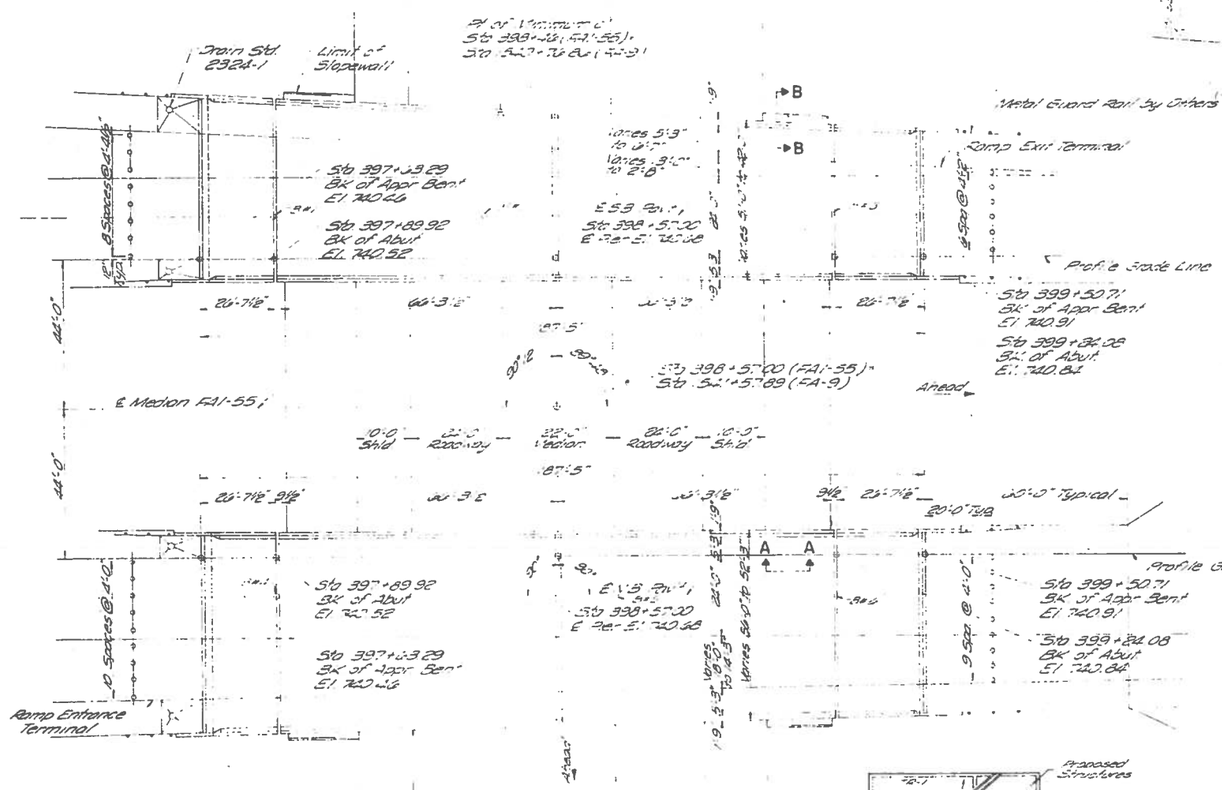
B.M. Z-846 - Standard C.&G.S. Disk
20' West of Pt. 251
Elev. 719.00

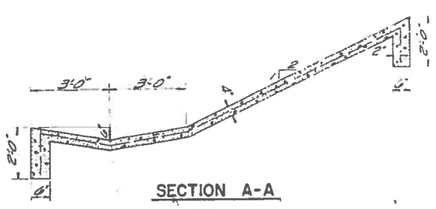


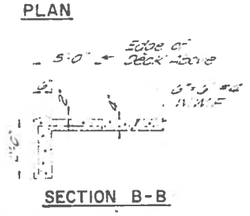
APPROACH PILE DATA
Type - Creosoted
Length Reqd. - 19'
No. Reqd. - 37

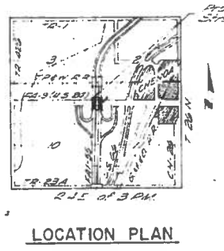
ELEVATION











STA. 398 + 57.00
BUILT 197 BY
STATE OF ILLINOIS
FAI RTE. 55 SEC 57-1HB
FA PROJECT I-55-5(39)
LOADING HS 20

NAME PLATE
See Std. 2113 (2 Req'd.)

GENERAL NOTES

All reinforcement bars shall be lapped 32 diameters unless otherwise shown.

Fasteners shall be high strength bolts 3/4"ø, open holes 13/16"ø unless noted.

Calculated weight of Structural Steel = 439,470 Lbs.

The Basic Lead Silico Chromate paint system shall be used for shop and field painting of structural steel.

Field welding of construction accessories will not be permitted to the bottom flange of beams or girders nor to the top flange for a distance equal to one-fourth the span length each way from the pier supports. Field welding in other areas will be permitted only when approved by the Engineer.

Anchor bolts shall be set before bolting diaphragms over supports.

The embankment configuration shown shall be the minimum embankment that must be constructed prior to the construction of the abutments.

The concrete rail section above the mandatory construction joint at the top of the slab shall be constructed of Class X Concrete, except the aggregates shall conform to the requirements of Handrail Concrete.

The contractor shall drive 3 test piles in permanent locations (See Sheets 19-21) as directed by the Engineer before ordering the remainder of the piles.

Protective Coat shall not be applied to surfaces to which Coal Tar Interlayer Protective Coat is applied.

Slope wall shall be reinforced with welded wire fabric 6"x6" mesh, weighing 58# per 100 sq. ft.

Concrete piles @ Abut. Berms shall be driven in holes preaxed through the embankment in accordance with Article 513.09(c) of the Standard Specifications.

For Footing Layout See Sheet 15 of 25

TOTAL BILL OF MATERIAL

ITEM	UNIT	SUPER	SUB	TOTAL
Bit. Conc. Surface Course, C.I.	Tons	160		160
Structure Excavation	Cu. Yd.		200	200
Class X Concrete	Cu. Yd.	579.6	608.7	1188.3
Precast Prestr. Conc. I Bms. 36	Lin. Ft.	682		682
Aluminum Railing	Lin. Ft.	782		782
Precast Piles 12"ø	Lin. Ft.		703	703
Concrete Piles	Lin. Ft.		4078	4078
Test Pile (Concrete)	Ea.		2	2
Name Plate	Ea.		2	2
Slope Wall, 4"	Sq. Yd.		1075	1075
Waterproofing Membrane System	Sq. Yd.	1940		1940
Reinforcement Bars	Lbs.	135,290	68,150	223,440
Structural Steel	L.S.	L.S.		L.S.
Preformed Joint Sealer 2"x2"	Lin. Ft.	201		201
Protective Coat	Sq. Yd.	286		286

Included in Section 57-1

DESIGN STRESSES

FIELD UNITS	PRECAST-PRESTRESSED UNITS
fc = 1,200 psi (Deck Slab)	f'c = 5,000 psi
fc = 1,400 psi (Sub Curb & Parapet)	f'c = 4,000 psi
fs = 20,000 psi (Reinf.)	fs = 248,000 psi
fs = 24,000 psi (Struct. A-36)	fs = 173,600 psi
Vc = 75 psi (Figs)	
n = 10	

25#/S.F. included in DL for future wearing surface
Allowable LL Def. = 1/800

LOADING HS20-44 & ALTERNATE
Design Specs 1969 AASHO as applicable

FOR INFORMATION ONLY

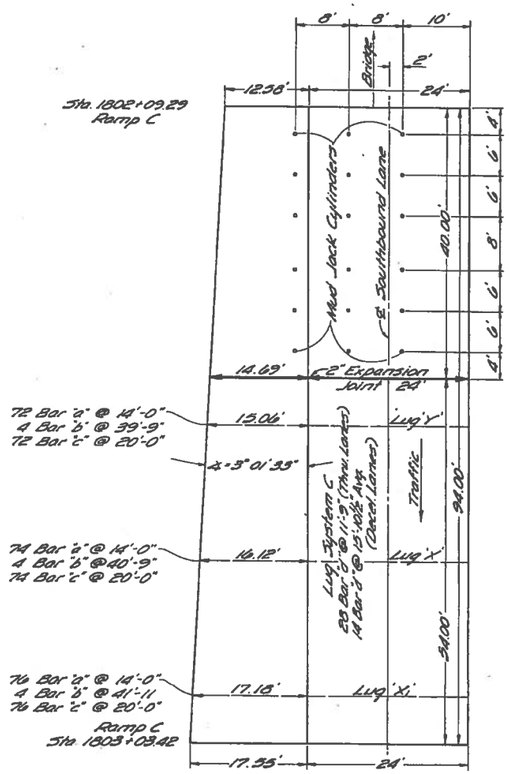
GENERAL PLAN & ELEVATION

FAI-55 OVER U.S. RTE. 24 (F.A.-9)
PROJECT I-55-5(39)184
FAI ROUTE 55 SECTION 57-1HB
MCLEAN COUNTY
STATION 398+57.00 (FAI-55)

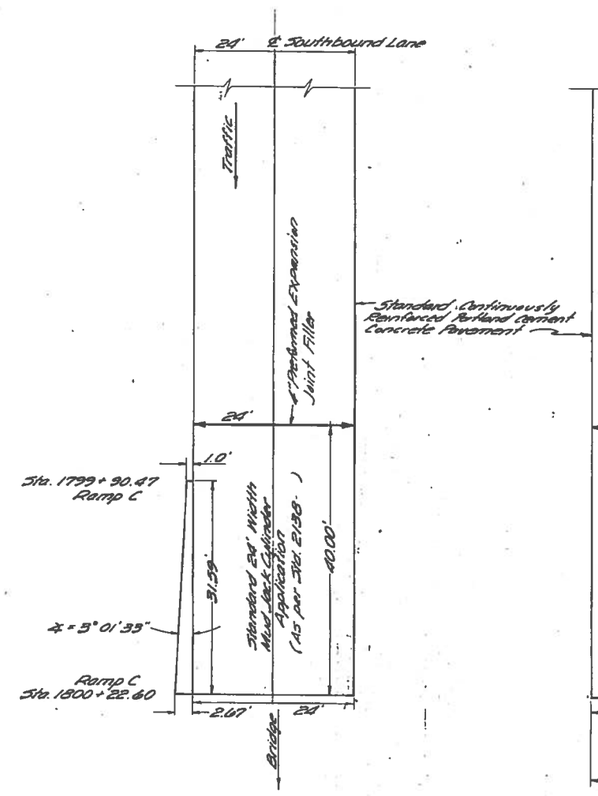
FEDERAL AID RIGHTS NO.	SEC.	COUNTY	TOTAL SHEETS	SHEET NO.
FAI-55	57-1	McLean	134	44
STA.		TO STA.		
S.F.H. DES. NO. 4	ILLINOIS	PROJECT		

FOR BRIDGE STA. 398+57

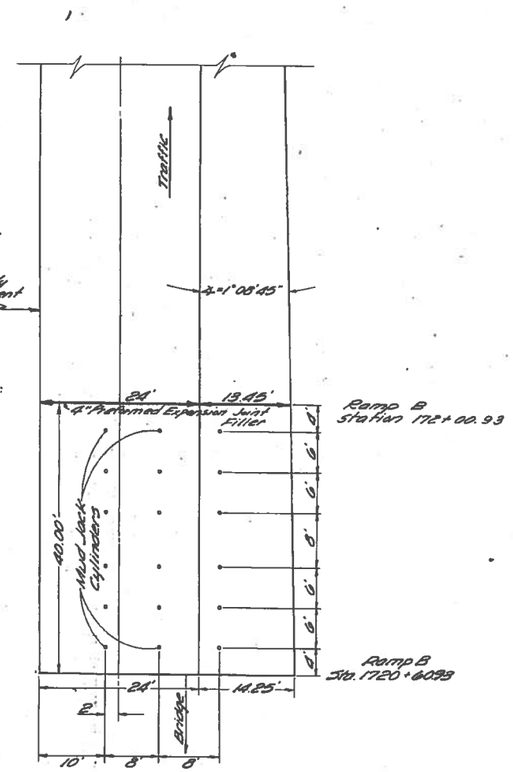
SOUTHERN END OF SOUTHBOUND BRIDGE– BRIDGE APPROACH SLAB AND LUG SYSTEM



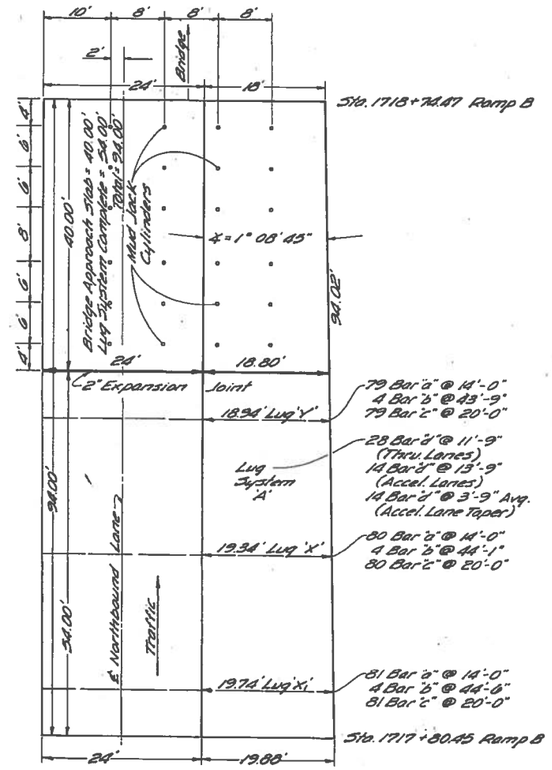
NORTHERN END OF SOUTHBOUND BRIDGE– BRIDGE APPROACH SLAB



NORTHERN END OF NORTHBOUND BRIDGE– BRIDGE APPROACH SLAB



SOUTHERN END OF NORTHBOUND BRIDGE– BRIDGE APPROACH SLAB AND LUG SYSTEM



BILLS OF MATERIAL FOR BRIDGE APPROACHES - STANDARD 2138 MODIFIED AS SHOWN

Pay Item	UNIT	QUANTITY	QUANTITY	QUANTITY	QUANTITY
Portland Cement Concrete Pavement (16 1/2" x 18' x 16 1/2")	Sq. Yd.	167.3	113.1	168.2	188.5
Class X Concrete (Lug Only)	Cu. Yd.	2.6	1.8	2.6	3.0
Reinforcement Bars (Total)	Lbs.	13,191 Including Reinf. in cap	8,814 Including Reinf. in cap	13,315 Including Reinf. in cap	14,774

BILLS OF MATERIAL FOR LUG SYSTEMS -

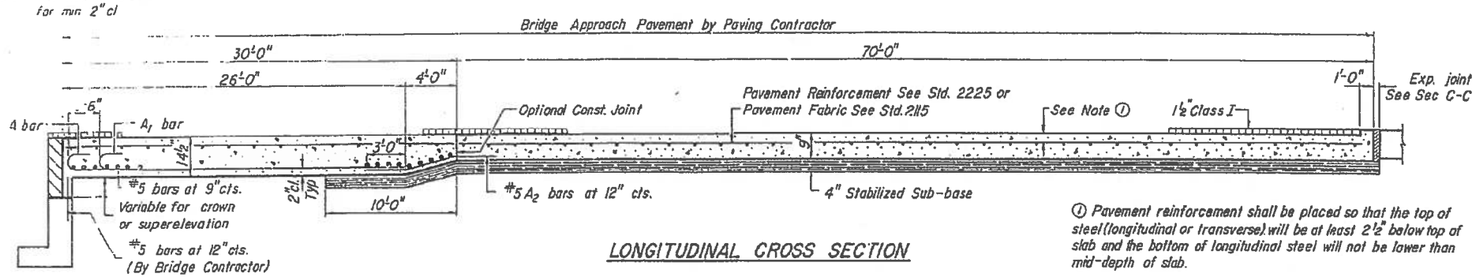
The Quantities shown for Class X Concrete, Reinforcement Bars and Stabilized Sub-Base are not given as Pay Items but are given as aids to the Contractor in arriving at a cost for Lug Systems Complete.

	STD. 2224 MODIFIED		STD. 2261 MODIFIED	STD. 2261 MOD.	STD. 2224 MOD.
	UNIT	QUANTITY	QUANTITY	QUANTITY	QUANTITY
Class X Concrete	Cu. Yd.	34.9	74.9	80.9	37.7
* Reinforcing Bars	Lbs.	11,920	11,920	12,808	13,808
Stabilized Sub-base, 4" Depth	Sq. Yd.	231	0	0	249

* See Standard 2224- or 2261 For Details and Dimensions Not Shown.

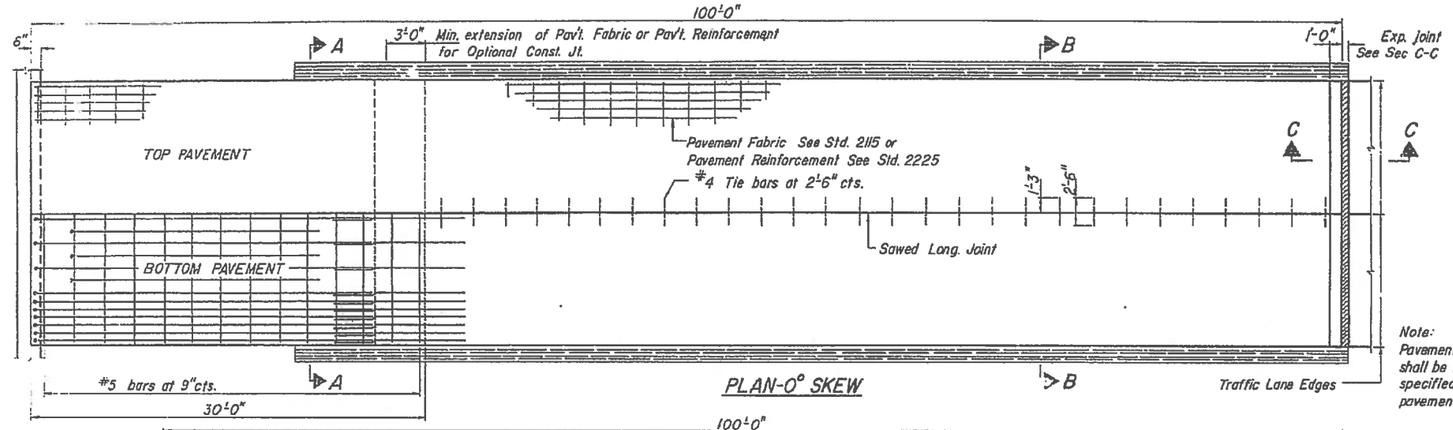
DETAIL SHEET
F.A.I.– 55 SEC. 57-1
McLEAN COUNTY

Use Tail hook of #9 bars for min. 2" cl



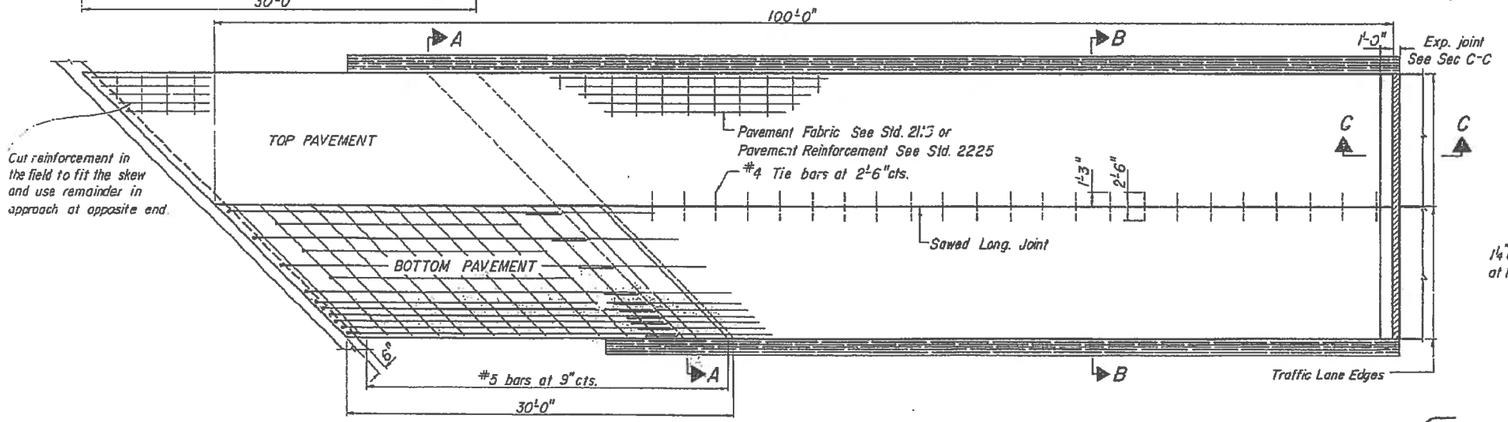
LONGITUDINAL CROSS SECTION

① Pavement reinforcement shall be placed so that the top of steel (longitudinal or transverse) will be at least 2½" below top of slab and the bottom of longitudinal steel will not be lower than mid-depth of slab.

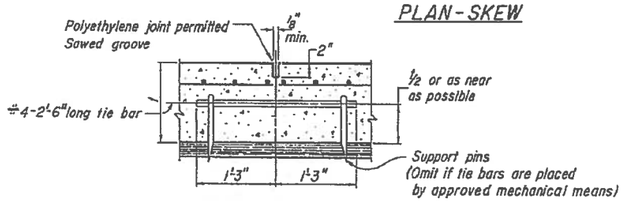


PLAN-0° SKEW

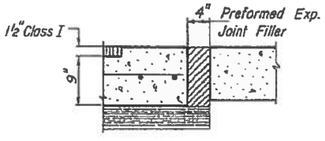
Note:
Pavement Reinforcement shall be the same as that specified in the adjacent pavement.



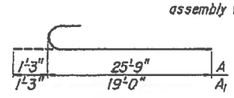
PLAN-SKEW



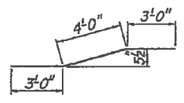
SAWED LONG. JOINT



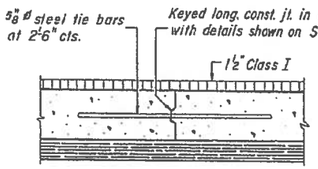
SECTION C-C
Standard P.C.C. Pavement



BARS A & A1

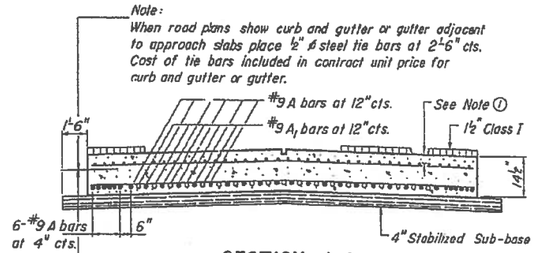


BAR A2



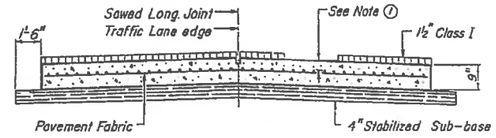
OPTIONAL LONG. CONST. JOINT

As approved by the Engineer; the contractor may elect to reduce the widths by use of the Optional Longitudinal Construction Joint shown. Joint shall be located at the edge of Traffic Lane.

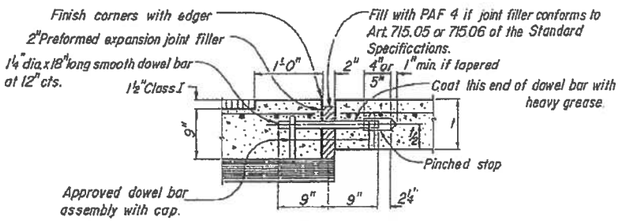


SECTION A-A

Tie bars in accordance with details for Bulkhead Longitudinal Construction Joint shown on Standard 2323.
The transition for gutter shall be made in 100 feet and will be paid for as CONCRETE GUTTER, of the type specified.
The transition for curb and gutter shall be made in 100 feet and will be paid for as COMBINATION CURB and GUTTER, of the type specified.



SECTION B-B



SECTION C-C
Continuous Reinforced P.C.C. Pavement

BRIDGE APPROACH PAVEMENT

STATE OF ILLINOIS DEPARTMENT OF TRANSPORTATION	ISSUED	
	REVISIONS	
PASSED March 26 1914		
Engineer of Bridges and Traffic Structures		
APPROVED Mar. 28 1914		
Engineer of Design		

STANDARD 2353

H 5.20

QUANTITIES FOR STANDARD 2353

Skew Angle	Transverse #5 bars		Longitudinal bars	Total Weight bars—lbs.
	NO.	Length		

Use 24 diameters for bar laps

14 FOOT WIDTH PAVEMENT

0°	40	13'-6"	27'-0" 20'-3" 10'-0" 22—#9A—bars 9—#9A$_1$—Lars 22—#5A$_2$—bars	3430	Bridge Approach Pavement & Pavement Reinforcement or Pavement Fabric 156 sq. yds. Bit. Concrete Surface Course., Class I 13 Tons
5°	40	13'-6"		3430	
10°	40	13'-9"		3440	
15°	40	14'-0"		3450	
20°	40	14'-4"		3470	
25°	40	14'-11"		3490	
30°	40	15'-7"		3520	
35°	40	16'-6"		3560	
40°	40	17'-7"		3600	
45°	40	19'-3"		3670	
50°	40	21'-0"		3750	
55°	40	23'-7"		3850	
60°	40	27'-0"		4000	

24 FOOT WIDTH PAVEMENT

0°	40	23'-6"	27'-0" 20'-3" 10'-0" 32—#9A—bars 19—#9A$_1$—bars 32—#5A$_2$—bars	5560	Bridge Aparoach Pavement & Pavement Reinforcement or Pavement Fabric 267 sq. yds. Bit. Concrete Surface Course., Class I 22 Tons
5°	40	23'-7"		5560	
10°	40	23'-11"		5580	
15°	40	24'-4"		5590	
20°	40	25'-0"		5620	
25°	40	25'-11"		5660	
30°	40	27'-0"		5710	
35°	40	28'-8"		5780	
40°	40	30'-8"		5860	
45°	40	33'-3"		5970	
50°	40	36'-6"		6100	
55°	80	21'-3"		6350	
60°	80	24'-3"		6600	

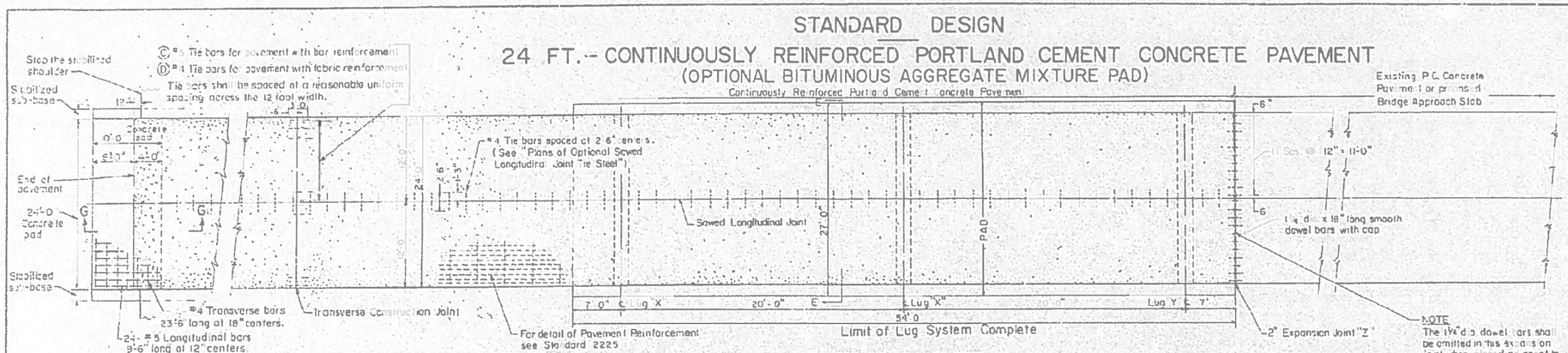
36 FOOT WIDTH PAVEMENT

0°	40	35'-6"	27'-0" 20'-3" 10'-0" 44—#9A—bars 31—#9A$_1$—bars 44—#5A$_2$—bars	8110	Bridge Approach Pavement & Pavement Reinforcement or Pavement Fabric 400 sq. yds. Bit. Concrete Surface Course., Class I 33 Tons
5°	40	35'-7"		8120	
10°	40	36'-1"		8140	
15°	40	36'-9"		8170	
20°	80	19'-9"		8280	
25°	80	20'-3"		8320	
30°	80	21'-3"		8410	
35°	80	22'-6"		8510	
40°	80	23'-9"		8610	
45°	80	25'-9"		8780	
50°	80	28'-3"		8990	
55°	80	31'-9"		9280	
60°	80	36'-3"		9660	

STANDARD DESIGN

24 FT.- CONTINUOUSLY REINFORCED PORTLAND CEMENT CONCRETE PAVEMENT

(OPTIONAL BITUMINOUS AGGREGATE MIXTURE PAD)



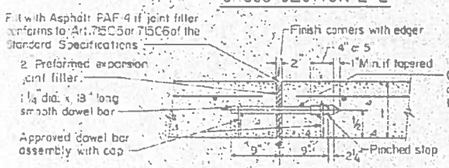
PLAN OF PAVEMENT

NOTE:

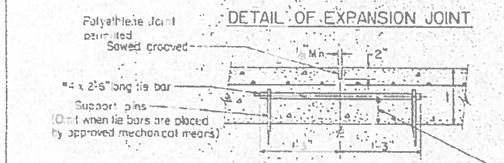
When a slip form paver not equipped with approved automatic grade controls is to be used, it shall operate on the BAM pad which shall be extended so that the overall width is 6 inches greater than the width from outside to outside of the slip form paver's tracks. Such extended width will not be measured for payment but shall be considered incidental to the contract.

If the slip form paver is equipped with approved automatic grade controls that control the four corner supports of the paver, and the Contractor elects to use these controls, the BAM pad shall be 12 inches wider than the design pavement width.

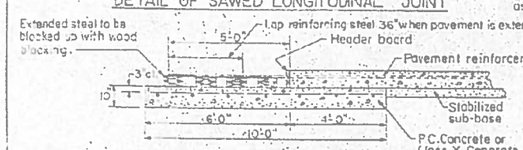
CROSS SECTION E-E



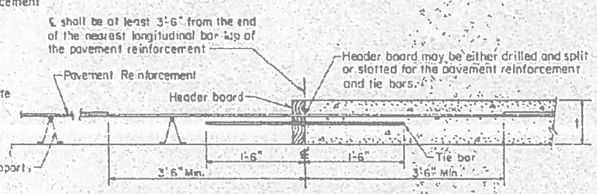
DETAIL OF EXPANSION JOINT



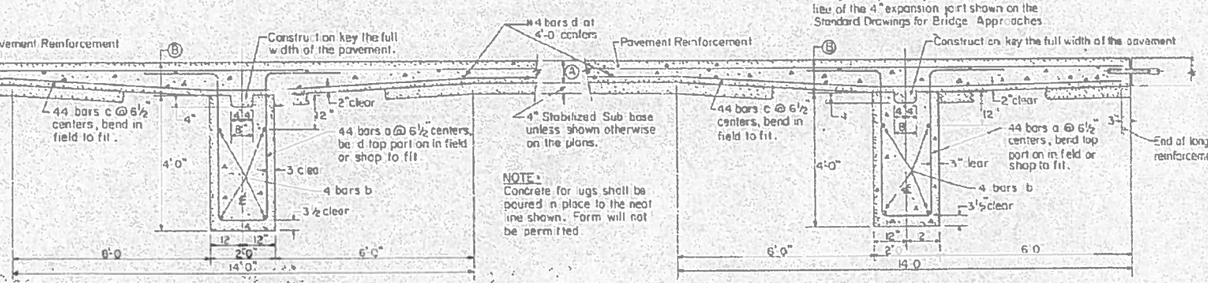
DETAIL OF SAWED LONGITUDINAL JOINT



SECTION G-G

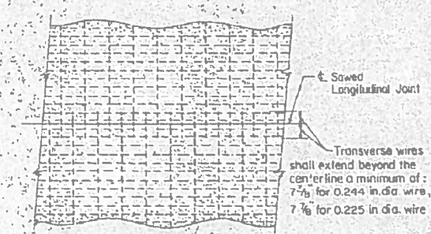


DETAIL OF TRANSVERSE CONSTRUCTION JOINT



SECTION AT LUG "X"

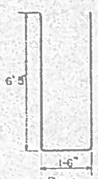
SECTION AT LUG "Y"



ASSEMBLY I
FABRIC REINFORCEMENT

ASSEMBLY II
BAR REINFORCEMENT
ASSEMBLY III

PLANS OF OPTIONAL SAWED LONGITUDINAL JOINT TIE STEEL



BILL OF MATERIAL FOR LUG SYSTEM
(Excluding pavement concrete and pavement reinforcement)

Bar	No.	Size	Length	Shape
a	132	#7	14'0	
b	12	#5	24'9"	
c	132	#5	20'0"	
d	28	#4	11'9"	

Class X Concrete, Cu.Yds. 20.85
Reinforcing Bars, Lbs. 7062
BAM Pad, Sq.Yds. 146

Pvmt Thick	(A)	(B)	(C)	(D)
8"		12"	8	2
9"		14"	9	14

GENERAL NOTES

Sawed joints shall be sealed with hot poured material meeting the requirements of the Tentative Specifications for Concrete Joint Sealer, Hot-Poured Elastic Type, A.S.T.M. Designation: D1190-52 T, or sealed with a cold applied, ready-mixed concrete joint sealing compound meeting the requirements of Article 7160 3.

Lug end anchorages shall be constructed at the locations shown except that when the distance between two expansion joints marked "Z" is less than 150ft. the anchorage shall be as shown on the detailed construction plans.

The 54 feet as shown above of Bituminous Aggregate Mixture Pad, between and adjacent to the lugs will be considered incidental to the Lug System.

Expansion joint shall be considered incidental to the cost of Continuously Reinforced Concrete Pavement.

Details shown in Section G-G shall apply only at the end of the construction section; the 10" reinforced concrete pad, header board, wood blocking, and the 5 ft. of extended pavement reinforcement will be considered incidental to the cost of the C.R.C. Pavement.

STATE OF ILLINOIS DEPARTMENT OF PUBLIC WORKS & BUILDINGS DIVISION OF HIGHWAYS	ISSUED 1-4-65	W.F.	3-10-69
	REVISIONS	JKP	0-15-69
PASSED Mch. 18, 1970	W.F. 4-1-65	W.F.	3-16-70
Engineer of Road Plans and Contracts	W.F. 6-25-65		
APPROVED Mch. 18, 1970	W.F. 4-20-66		
Engineer of Design	G.R. 8-1-68		
	G.R. 11-15-69		

STANDARD 2224-8

(Full Size) W.F.